

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A computer-implemented method for generating and using a mapping scheme, the method comprising:
receiving commands from a user, wherein said commands establish a mapping between one or more attributes of a ~~source~~ an XML document and one or more attributes of a ~~target~~ relational database;
based on said commands, automatically generating a mapping scheme that represents said mapping, wherein said mapping scheme includes at least one of:
multiple attributes of said ~~source~~ XML document mapped to a single attribute of said ~~target~~ relational database; and
multiple attributes of said ~~target~~ relational database mapped to a single attribute of said ~~source~~ XML document; and
using said mapping scheme to perform a single transformation that moves ~~a set of data said XML document~~ directly ~~from said source~~ into said ~~target~~ relational database without materializing the entire ~~set of data XML document~~ separate from said ~~source~~ XML document and said ~~target~~ relational database during said transformation;
~~wherein said source is one of a relational database and an XML document and said target is the other of said relational database and said XML document;~~
wherein the one or more attributes, ~~of the one of said source and said target that is~~ of said relational database[[,]] correspond to one or more columns in one or more tables in said relational database.

2-3. (Canceled)

4. (Currently Amended) The method of claim 1, wherein said mapping scheme further includes instructions on how to collapse a number of attributes of said ~~source~~ XML document into a smaller number of attributes of said ~~target~~ relational database.

1 5. (Currently Amended) The method of claim 1, wherein said mapping scheme further
2 includes instructions on how to expand a number of attributes of said ~~source~~ XML
3 document to a greater number of attributes of said ~~target~~ relational database.

1 6. (Currently Amended) The method of claim 1, wherein:
2 the step of receiving commands from a user includes receiving user input that
3 specifies a condition, and an action associated with the condition; and
4 the method further comprises the steps of:
5 performing an operation that includes converting data, based on said mapping
6 scheme, from ~~the source~~ said XML document to a format associated
7 with ~~the target~~ said relational database;
8 during performance of said operation, performing the steps of:
9 determining whether the condition is satisfied; and
10 if the condition is satisfied, then performing said action.

1 7. (Currently Amended) The method of claim 1, wherein:
2 the step of receiving commands from a user includes receiving user input that
3 specifies a specific set of instructions; and
4 the method further comprises the steps of:
5 performing an operation that includes converting data, based on said mapping
6 scheme, from ~~the source~~ said XML document to a format associated
7 with ~~the target~~ said relational database; and
8 during performance of said operation, executing the specific set of instructions
9 to affect said operation.

1 8. (Currently Amended) The method of claim 1, wherein:
2 the step of receiving commands from a user includes receiving user input that
3 declares a variable to which values can be assigned; and
4 the method further comprises the steps of:

performing an operation that includes converting data, based on said mapping scheme, from ~~the source~~ said XML document to a format associated with ~~the target~~ said relational database; and
during performance of said operation, using said variable.

9. (Currently Amended) The method of claim 1, wherein:

the step of receiving commands from a user includes receiving user input that specifies a precompiled routine; and
the method further comprises the steps of:

performing an operation that includes converting data, based on said mapping scheme, from ~~the source~~ said XML document to a format associated with ~~the target~~ said relational database; and
during performance of said operation, calling said precompiled routine to affect said operation.

10. (Currently Amended) The method of claim 1, further comprising:

reading source data definition that includes information about said ~~plurality of one or more~~ plurality of one or more attributes of said ~~source~~ said XML document;

reading target data definition that includes information about said ~~plurality of one or more~~ plurality of one or more attributes of said ~~target~~ said relational database; and

based on said source data definition and said target data definition, presenting to said user an interface that identifies said ~~plurality of one or more~~ plurality of one or more attributes of said ~~source~~ said XML document and said ~~plurality of one or more~~ plurality of one or more attributes of said ~~target~~ said relational database;

wherein said step of receiving commands from said user is performed by receiving said commands through said interface.

11. (Currently Amended) The method of claim 1, wherein said mapping scheme includes instructions on how to collapse a number of hierarchical levels of said ~~source~~ said XML document into a smaller number of hierarchical levels of said ~~target~~ said relational database.

1 12. (Currently Amended) The method of claim 1, wherein said mapping scheme includes
2 instructions on how to expand a number of hierarchical levels of said ~~source~~ XML
3 document to a greater number of hierarchical levels of said ~~target~~ relational database.

1 13-16. (Canceled)

1 17. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 1.

1 18-19. (Canceled)

1 20. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 4.

1 21. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 5.

1 22. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 6.

1 23. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 7.

- 1 24. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 8.
- 1 25. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 9.
- 1 26. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 10.
- 1 27. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 11.
- 1 28. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 12.
- 1 29-32. (Canceled)
- 1 33. (Currently Amended) The method of claim 1, wherein:
2 a plurality of attributes of said ~~source~~ XML document are related to each other
3 according to a first hierarchy that includes multiple hierarchical levels;
4 a plurality of attributes of said ~~target~~ relational database are related to each other
5 according to a second hierarchy that includes multiple hierarchical levels; and
6 said commands establish, in said mapping, that a particular hierarchical level of said
7 ~~source~~ XML document is mapped to a particular hierarchical level of said

8 ~~target~~ relational database, wherein said particular hierarchical level of said
9 ~~source~~ XML document is at a different depth, within said first hierarchy, than
10 the depth of said particular hierarchal level of said ~~target~~ relational database
11 within said second hierarchy.

1 34. (Currently Amended) The method of claim 1, wherein said single transformation is
2 performed by executing commands defined in a programming language that supports
3 operations to fetch said ~~set of data~~ XML document directly from said ~~source~~ and store
4 said ~~set of data~~ XML document directly into said ~~target~~ relational database.

1 35. (Previously Presented) The method of claim 1, wherein:
2 said mapping scheme includes instructions which define that operations included in
3 said single transformation are grouped to represent a transaction; and
4 using said mapping scheme to perform said single transformation further comprises
5 performing said operations in said transaction.

1 36. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 33.

1 37. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 34.

1 38. (Currently Amended) A computer-readable storage medium ~~carrying~~ storing one or
2 more sequences of instructions which, when executed by one or more processors,
3 causes the one or more processors to perform the method recited in Claim 35.

1 39. (New) The method of claim 1, wherein using said mapping scheme to perform said
2 single transformation comprises:

3 processing a first XML element of said XML document to move said first XML
4 element from said XML document to said relational database; and
5 after processing of said first XML element is completed, processing a second XML
6 element of said XML document to move said second XML element from said
7 XML document to said relational database, wherein said second XML
8 element is different from said first XML element.

1 40. (New) A computer-readable storage medium storing one or more sequences of
2 instructions which, when executed by one or more processors, causes the one or more
3 processors to perform the method recited in Claim 39.